



UCSC

University of Colombo, Sri Lanka

University of Colombo School of Computing



DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY
(EXTERNAL)

Academic Year 2024 — 2nd Year Examination — Semester 4

IT4106 — User Experience Design

Part 2 - Structured Question Paper

(2 Hours for both Part 1 and Part 2)

To be completed by the candidate

Index Number

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Important Instructions

- This paper has **two (2) parts, Part 1 and Part 2**.
- The total duration of **both Part 1 and Part 2 is 2 hours**.
- The final mark for the paper will be determined by averaging the scores of Part 1 and Part 2, each of which is graded out of **100**.
- The medium of instructions and questions is English. Students should answer in the medium of English language only.
- This paper (Part 2) has **2 questions on 8 pages**. Answer **both** questions.
- Write your answers **only on the space provided** on this question paper.
- Do not tear off any part of this question paper. Under no circumstances may this paper (or any part of this paper), used or unused, be removed from the Examination Hall by a candidate.
- Note that questions appear on both sides of the paper. If a page or part of a page is not printed, please inform the supervisor/invigilator immediately.
- Any electronic device capable of storing and retrieving text, including electronic dictionaries, smartwatches, and mobile phones, is not allowed.
- Calculators are **not allowed**.
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To be completed by
the examiners

1	
2	
Total	

(50 Marks)1)
(a)

Distinguish between User Experience (UX) Design and Human-Computer Interaction (HCI) with reference to their goals and primary focus areas.

[10 Marks]

ANSWER IN THIS BOX

(b)

The Double Diamond model is widely used to structure the design process in user experience and interaction design.

(I) Describe the **four (4) key stages** of the Double Diamond model, and explain how each stage contributes to effective user-centered design.

(II) Using an example, explain how a design team might apply this model in developing a mobile app for public transportation users.

[12 Marks]

Answer in the box

[illegible]

- (c) Users often interact with digital products based on mental models they form about how the system works.
- (I) Define a *mental model* and explain how it differs from a *conceptual model* in the context of user experience design.
 - (II) Describe **one (1)** design strategy that helps align a user's mental model with the intended system behavior. Provide an example to support your answer.

[20 Marks]

Answer in the box

[illegible]

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(d)

Briefly state the key components of a WIMP interface. Sketch a simple WIMP interface for a wizard-based software installer. Clearly label **at least four (4)** standard WIMP elements. [08 Marks]

[08 Marks]

Answer in the box

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2)

(50 Marks)

(a)

Read the following user description carefully and answer the questions below:

“An online learning platform is being developed for a mixed group of adult learners.

Sarah is a 42-year-old high school teacher who is pursuing a diploma in educational technology. She studies mostly in the evenings after school and prefers watching recorded videos over reading long texts. She has a slow internet connection at home.

Jamal is a 23-year-old undergraduate student studying from a rural town. He uses his mobile phone for most tasks and has very limited data. He is visually impaired and uses screen readers to interact with content.”

- I. Complete **Table I** by identifying and describing the two personas. Include each persona's **background, goals, challenges**, and **design considerations** based on the description above. The first row and column headings have been provided for you.
- II. Complete **Table II** by writing a **short usage scenario (2–3 sentences)** for each persona. Describe how that persona would use the platform in their **daily learning context**.

[25 Marks]

ANSWER IN THIS BOX

(I) Table I

Persona Name		
Persona Attribute		
Back-ground		
Goals		
Challenges		
Design Considerations		

(II) Table II

Persona Name	Short Scenario

(b) Consider the scenario below:

1. A man walks into a bank to withdraw money.
 2. He appears confused.
 3. A nearby security guard points to a self-service kiosk.
 4. The man slowly walks over and sees a button labeled “Start.”
 5. He hesitates, then presses it.
 6. The screen displays three options: “Deposit,” “Withdrawal,” and “Account Opening.”
 7. Although his English is weak, he selects “Withdrawal.”
 8. A printed token labeled **W034** appears.
 9. He observes people sitting and a display board showing **W032 – Counter 5**.
 10. He sits but does not continue to watch the board.
 11. Later, he suddenly notices his number (**W034 – Counter 7**) has appeared.
 12. He hurries to the counter, looking nervous.
- I. Using the scenario above, carry out an interaction analysis to identify **two (2) examples** each of “**Verbal behavior**”, “**Non-verbal behavior**” and “**Interaction with artifacts**”. Complete **Table I** on page 7 by indicating the relevant sentence number(s) and briefly explaining what the behavior reflects.
 - II. As a UX designer, evaluate the user experience described in the scenario. Identify **four (4) key observations** where the user encounters confusion, inefficiency, or uncertainty and complete **Table II** on page 8.

[25 Marks]

ANSWER IN THIS BOX

(I) Table I

Type of Interaction	Sentence Number(s)	Explanation of the Behavior
Verbal Behavior 1		
Verbal Behavior 2		
Non-verbal Behavior 1		
Non-verbal Behavior 2		
Interaction with Artifact 1		
Interaction with Artifact 2		

(II) Table II

Observation (What happened?)	UX Issue (Why it is a problem?)	Recommendation (How to improve it)
1. The user looks confused on entry.		
2. The user hesitates at the kiosk.		
3. Language barrier at menu.		
4. Missed token call on the board.		
